Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Reorganization and Revision of	)	WT Docket No. 94-148
Parts 1, 2, 21, and 94 of	)	
the Rules to Establish a New	)	
Part 101 Governing Terrestrial	)	
Microwave Fixed Radio Services	)	
	)	

To: The Commission

JOINT REPLY COMMENTS

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SUMMARY

In their Joint Comments on the captioned Notice of Proposed Rulemaking ("NPRM"), the Fixed Point-to-Point Communications Section, Network Equipment Division of the Telecommunications Industry Association ("TIA"), the principal industry association representing microwave manufacturers, and the National Spectrum Managers Association, Inc. ("NSMA"), the principal industry association of frequency coordinators, urge adoption of most rule proposals therein. They also recommend certain further revisions to the new Part 101. Specifically, TIA and NSMA propose that the Commission, as part of the NPRM, revise the rules so that: (i) private fixed point-to-point ("POFS") and common carrier fixed point-to-point ("CC") microwave users will be treated the same; (ii) frequency coordination, interference protection, transition to a new Part 101, construction, and other user-related rules, will promote spectral efficiency and interference protection; and (iii) equipment-related rules, such as antenna standards and Automatic Transmitter Power Control ("ATPC"), will reflect industry standards.

As detailed herein, the public agrees. Unanimous support for establishing Part 101 exists. Numerous parties directly urge the Commission to adopt the TIA/NSMA proposals or to adopt comparable proposals. More importantly, concerns over TIA/NSMA suggestions regarding ATPC and loading requirements are shown in their Joint Reply Comments to be unjustified.

Specifically, the record of this proceeding compels the Commission to adopt the rules proposed in the NPRM, with the revisions recommended by TIA/NSMA in their Joint Comments and with the further limited revisions recommended herein:

- All technical rules, application forms and licensing rules must be consolidated -- Consolidating all technical rules into a single Part 101 subpart, adopting a single application form for both POFS and CC applicants, specifying in the rules what information regarding equipment and antennas must be included in the application, and imposing the same licensing rules on all Part 101 users is supported widely by the commenters.

- ATPC guidelines in Bulletin 10-F must be adopted -- Basing the use of ATPC on TIA's "Telecommunications Systems Bulletin No. 10-F, Interference Criteria for Microwave Systems" ("Bulletin 10-F"), is endorsed by numerous parties. Concerns raised by Pacific Bell, RCCMC, UTC, and TSGI regarding how ATPC works under Bulletin 10-F are not justified. Pacific Bell, however, agrees with TIA/NSMA that the Commission's decision to permit only a 3 dB increase in power when using ATPC is unacceptable.

- Channel loading criteria are sufficiently flexible -- Loading standards proposed in Section 101.141 were questioned by API because they do not appear sufficiently flexible. TIA/NSMA agree. API considers that the TIA/NSMA definition, for when 50 percent of total DS-1 capacity is being used (Section 101.141(a)(6)), provides such flexibility for digital systems. In addition, API agrees with a new TIA/NSMA proposal, made herein, that the analog channel loading requirement should be 25%, instead of the 50% requirement suggested in the Joint Comments, in order to provide users adequate flexibility.

- Formula to calculate maximum EIRP for short paths must be revised -- TIA/NSMA support substituting their formula to calculate the maximum EIRP for short paths, proposed in the Joint Comments, with a formula to be submitted by Comsearch in its Reply Comments. The Comsearch proposal permits users to install short paths without significantly sacrificing power.

- Transition period to Part 101 must be established -- Several parties join TIA/NSMA in urging adoption of a transition period from Parts 21 and 94 to Part 101. TIA/NSMA propose permitting grandfathered Part 21 and Part 94 licensees to make specified system changes without forfeiting such status. In addition, herein, TIA/NSMA propose grandfathering equipment authorized under Part 2, for use in Part 21 and Part 94 systems, to be used in Part 101 systems if such rules otherwise permit.

- Notice provisions for "minor" modifications must be clarified -- TIA/NSMA's proposal regarding when prior coordination notices ("PCN") are required must be clarified. A PCN only is required for a new or "major" modification application, but a less formal notice still is required for a "minor" modification application.

- Pre-authorization operation must be permitted -- Based upon proposals by BellSouth, CCPR and other parties, TIA/NSMA's recommendation, in their Joint Comments, that CC and POFS applicants can construct prior to licensing, must be expanded to permit operation under strict conditions.

- All other TIA/NSMA proposals must be adopted -- Most parties either directly support, or submit suggestions similar to, TIA/NSMA proposals regarding frequency coordination (Section 101.103), interference protection (Section 101.105), extending the construction period (Section 101.63), increasing transmitter power EIRP to +55 dBW (Section 101.113), clarifying the antenna and polarization standards (Sections 101.115 and 101.117), adding frequency tolerance specifications for the 4, lower 6, and 11 GHz bands (Section 101.107), and specifying maximum authorized bandwidths for individual frequency bands (Section 101.109).

A remarkable consensus has been reached in the record of this proceeding. Indeed, TIA/NSMA have been responsive to suggestions in the comments. In their Joint Reply Comments, TIA/NSMA, in response to such suggestions, recommend changes herein to the initial proposals made in the Joint Comments for analog channel loading, calculating maximum EIRP for short paths, grandfathering equipment authorized for use in Part 21 or 94 systems, and permitting pre-authorization construction and operation.

Manufacturers, users, and frequency coordinators all have joined to develop a comprehensive set of rules that meet industry needs, satisfy the Commission's requirements, and promise to guide the fixed point-to-point microwave industry well into the future. Thus, the public interest mandates that the Commission promptly adopt the NPRM, with the TIA/NSMA revisions made in the Joint Comments and refined herein.

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To: The Commission

JOINT REPLY COMMENTS

Pursuant to Section 1.415 of the Commission's Rules,[1] the Fixed Point-to-Point Communications Section, Network Equipment Division of the Telecommunications Industry Association ("TIA"), and the National Spectrum Managers Association, Inc. ("NSMA"),[2]

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[1]47 C.F.R. Section 1.415 (1994). The deadline for filing reply comments in this proceeding has been extended from February 21, 1995, to March 17, 1995. Order (DA 95-140, released Feb. 2, 1995).

[2]TIA is the principal industry association representing fixed point-to-point microwave radio manufacturers. TIA members serve, among others, companies, licensed by the Commission to use the 2 GHz private and common carrier bands for provision of important and essential telecommunications services. TIA's members, as suppliers to the large and important fixed point-to-point microwave radio market, are greatly concerned about the criteria for determining what technical and other rules will govern operation by their customers. Consistent with this interest, TIA has adopted its "Telecommunications Systems Bulletin No. 10-F, Interference Criteria for Microwave Systems" ("Bulletin 10-F"), which prescribes standards for implementing the new fixed point-to-point microwave radio channel plans for the bands above 3 GHz and for establishing criteria regarding 2 GHz band PCS-to-microwave interference protection. The NSMA represents the frequency coordination community. Established in 1984, the NSMA is a voluntary association of individuals involved in the frequency coordination of terrestrial microwave and satellite earth stations. The NSMA's role is to supplement the Commission's coordination rules with procedural and technical recommendations developed in an open industry forum of coordinators, licensees, and manufacturers. The NSMA's objective is to make the frequency coordination process more efficient and effective.

hereby reply to the comments on the above-captioned Notice of Proposed Rulemaking ("NPRM") to establish a new Part 101 governing terrestrial microwave fixed radio services.[3]

TIA and NSMA support prompt adoption of Part 101. Indeed, many of the rule proposals in the NPRM are based upon suggestions originally made by TIA and NSMA members. The Commission has done an admirable job in taking the initiative "to simplify the rules" for Part 21 and Part 94 fixed microwave services, to consolidate these rules into a new Part 101, and to "restructure the fixed microwave rules so that they are easier for the public to understand and use . . . ."[4]

While the proposals in the NPRM go a long way towards establishing a useful menu of rules for fixed licensees, they do not go far enough. To bridge this gap, TIA and NSMA proposed revisions to the NPRM in their Joint Comments, and herein propose further limited revisions in response to suggestions in the comments.[5] These proposed revisions to the NPRM are necessary so that:

- A single set of technical, application and licensing rules for private operational fixed ("POFS") and common carrier fixed ("CC") point-to-point microwave applicants and licensees is adopted which is totally consistent with current industry standards.
- ATPC guidelines in Bulletin 10-F are adopted.
- Channel loading standards for digital and analog systems are sufficiently flexible. API, which questioned the TIA/NSMA proposal,

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[3]Attachment 1 lists the parties in this proceeding and the abbreviations for these parties used herein.

[4]NPRM at para. 1.

[5]In Appendix A-1, attached hereto, TIA/NSMA set forth additional highlighted (i.e., in bold) revisions to the Part 101 rules proposed in their Joint Comments, Appendix A. Thus, Appendix A-1 constitutes the complete set of Part 101 rules that TIA/NSMA propose for Commission adoption.

now supports it, with the further revisions for analog loading set forth in Appendix A-1 attached hereto.

- A formula to determine maximum EIRP for short paths meets industry needs. On further evaluation, TIA/NSMA now recommend that its proposal in the Joint Comments should be replaced with a Comsearch proposal, to be submitted in its Reply Comments in this proceeding. The Comsearch proposal is more flexible and is more effective at permitting users to install short paths without significantly sacrificing power than the TIA/NSMA proposal.

- A prior coordination notice ("PCN") is required only for new systems and for "major" modifications, while a simple "notice" must be given to affected users upon filing of a "minor" modification application.

- A transition period from Parts 21 and 94 to Part 101 is established, which grandfathers Part 21 and 94 licensees indefinitely and which permits such licensees to make certain system changes without losing that status. Herein, TIA/NSMA further propose grandfathering equipment, authorized under Part 2 for use in Part 21 or 94 systems, so that such equipment also could be used in Part 101 systems if the new rules otherwise permit.

- The period for constructing a station is 18 rather than 12 months.

- Construction and operation can commence prior to authorization if certain conditions are met.

As detailed below, these proposals are supported in the record of this rulemaking. Thus, the Commission must adopt Part 101, as proposed in the NPRM and revised by TIA/NSMA.

THE RECORD STRONGLY SUPPORTS ADOPTION OF PART 101, AS REVISED BY TIA/NSMA

Adoption of a uniform set of rules for POFS and CC applicants and licensees is essential. To avoid delays in application processing, the Part 101 technical rules must be in place before the personal communications services ("PCS") and relocated 2 GHz microwave applications are filed.

Establishing Part 101 is

> a natural continuation of the efforts initiated in Docket 92-9 to accommodate users who must relocate to clear spectrum for emerging technologies. An effective rule consolidation is critical to the success of the relocation efforts since it will provide the displaced incumbent microwave users with clear and concise technical and procedural guidelines for operations in the new bands.[6]

Consequently TIA and NSMA support prompt adoption of the rules proposed in the NPRM, except for certain recommended changes, which are included in Appendix A of their Joint Comments and which are modified further in Appendix A-1 attached hereto.

A. The TIA/NSMA Revisions Are Necessary.

The TIA/NSMA proposed revisions to the NPRM, as set forth in their Joint Comments, include:

- Equal treatment for private and common carriers -- All technical rules and frequency assignments applicable to Part 21 and Part 94 fixed point-to-point microwave applicants and licensees must be consolidated into the proposed Part 101, Subpart C (Technical Standards). To preserve the unique identity of POFS and CC licensees, non-technical rules applicable to these separate services, such as eligibility and permissible communications, must remain in Subpart H (Private Operational Fixed Microwave Service) and Subpart I (Point-to-Point Microwave Radio Service). POFS and CC licensees must be subject to the same requirements for application filing (e.g., application forms and content), authorization (e.g., private carriers would be eligible for temporary authorizations in the same manner as common carriers), and construction (e.g., common carriers could construct before licensing in the same manner as private carriers). Definitions must be adopted for the "Private Operational Fixed Point-to-Point Microwave Service" and for the "Common Carrier Fixed Point-to-Point Microwave Service." Subparts H and I, respectively, should be renamed accordingly.

- User related issues -- A transition period for the Part 101 rules must be established to facilitate deployment of the substantive new equipment and interference standards that will be applied. Criteria for

[6]Comsearch at 2.

classifying "major" application amendments and license modifications must be revised to be more industry-appropriate. To safeguard against weather delays or the delays caused by anticipated equipment, site and construction crew shortages, all POFS and CC microwave licensees must be given 18 months to construct. Frequency coordination rules must be made expressly applicable to private and common carrier applicants and licensees. Interference dispute resolution procedures must be established. Interference criteria may be relaxed upon mutual consent of the parties. The "practical threshold" for interference protection must be defined and should be consistent with Bulletin 10-F standards. Frequency tolerance specifications for the 4, lower 6, and 11 GHz bands and for heterodyne equipment must be added. Modulation specifications must be made applicable to analog systems and must be expanded to cover equipment operating below 19.7 GHz. Loading standards must be limited to digital services and to commercially available equipment. Maximum authorized bandwidth for individual frequency bands must be specified.

- Equipment issues – Antenna standards must be clarified so that they apply to all fixed stations operating above 900 MHz and so that antenna upgrades can be requested and paid for by the appropriate party. Antenna polarization must be defined. Use of ATPC must be permitted under the new rules for both POFS and CC licensees.[7]

TIA/NSMA continue to advocate these proposals. However, upon review of the comments on the NPRM, TIA/NSMA propose a limited number of further revisions, included in Appendix A-1. These further revisions: (1) expand the Section 101.4 grandfather provisions to include equipment used in part 101 systems; (ii) permit applicants under Sections 101.5 and 101.31 to construct and operate prior to receiving a permanent or temporary authorization; (iii) relax the analog loading criteria in Section 101.141; and (iv) change the formula in Section 101.143 to calculate maximum EIRP for short paths.

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[7]It is important to note that the TIA/NSMA proposals are not new. These recommendations were submitted by various parties during the ET Docket No. 92-9 rulemaking, but the Commission decided to defer full consideration of these proposals until its Part 101 rulemaking. Redevelopment of Spectrum to Encourage Innovation In the Use of New Telecommunications Technologies, Second Report and Order, ET Docket No. 92-9, 8 FCC Rcd 6495, 6519-20 (1993) ("Second Report and Order"), modified, Memorandum Opinion and Order, 9 FCC Rcd 1943 (1994).

All parties to this proceeding support adoption of Part 101 because it results in needed streamlining and simplification of the rules and because it makes the rules more congruent with industry usage:

> These rule conformances and clarifications are essential to efficient, interference-free operation in the frequency bands allocated for [POFS and CC] usage. These steps will benefit both licensees and the users of the communications paths afforded by the radio frequencies. This clearly is consistent with the Commission's goals in this proceeding.[8]

A significant number of these parties, however, also declare that revisions to the NPRM are necessary because

> [w]hile the NPRM represents a positive step towards consolidation and simplification of the Part 21 and Part 94 Rule parts, it does not go far enough to meet the stated key objectives "to restructure the fixed microwave rules so that they are easier for the public to understand and use, to conform similar rule provisions to the maximum extent possible, to eliminate redundancy, and to remove obsolete language." Changes to the proposed Part 101 are warranted to more fully meet these objectives.[9]

B. The Record Supports The TIA/NSMA Proposals.

Several of these parties expressly endorse the TIA/NSMA proposals.[10] Other parties propose changes consistent with the TIA/NSMA proposals.[11]

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[8]GTE at 6.

[9]Comsearch at 2.

[10]MCI at 1; UTC at 3 n.3; WMC at 2; Comsearch at 3; AAR at 4; CSI at 1; ANS at 2; Harris at 2.

[11]For example, GTE also supports consolidating all technical rules into a single subpart (GTE at 4-5); AT&T opposes allowing licensees to reserve growth channels for up to six (6) months, as provided in current proposed Section 101.103(d)(2)(xii) (AT&T at 5); and API recommends establishing a transition period from Parts 21 and 94 to Part 101 (API at 13).

With limited exception, no party suggests changes inconsistent with the TIA/NSMA proposals. Most notably, these exceptions involve rules governing ATPC, channel loading, and calculation of maximum EIRP for short paths.[12] However, these concerns either have no basis or are addressed by further rule changes proposed below.

CONSOLIDATION OF ALL TECHNICAL RULES AND USE OF A SINGLE APPLICATION FORM ARE OVERWHELMINGLY SUPPORTED

A. All Technical Rules Must Be In A Single Subpart.

In the NPRM, the Commission includes most technical rules in Subpart C, but it includes certain of the same technical standards in Subpart H for private carriers and in Subpart I for common carriers. To complicate compliance even further, the Commission also proposes technical standards in either Subparts H or I, but not in Subpart C.

The principal revision to the Part 101 rules in the NPRM proposed by TIA/NSMA is to consolidate all technical rules for POFS and CC applicants and licensees into Subpart C:

> TIA and NSMA propose eliminating all technical standards from Subparts H and I. These technical standards, if not already addressed in Subpart C, would be included therein. If a technical standard is unique to either POFS or CC users, that standard would be in Subpart C, but the limited scope of its applicability would be expressed clearly in the rule.[13]

Consolidation of all technical rules into a single subpart is supported overwhelmingly in the record.[14] BellSouth advocates consolidating the CC and POFS rules "to the

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[12]See Pacific Bell at 1-3; RCCMC at 8-10; UTC at 17; TSGI at 8; API at 14-17; AT&T at 6-7.

[13]TIA/NSMA at 10.

[14]DMC at 2-3; BellSouth at 5; ANS at 2; Harris at 1-2; CSI at 2; API at 14; SBC at 3-4; WMC at 3; TDS at 1; ALLTEL at 1-2; EFJ at 3; AirTouch at 1-2. One of the critical components of this consolidation is TIA/NSMA's proposed listing of all frequencies for POFS and CC licensees in a

maximum extent possible."[15] UTC states that this "consolidation will help to eliminate any confusion among applicants and licensees, and will minimize the possibility for inadvertent and unintentional discrepancies in the Rules."[16] SBC declares that the Commission must "take full advantage of this simplification effort by consolidating or eliminating subparts wherever possible."[17] Similarly, GTE urges the Commission to follow the TIA/NSMA recommendation:

> [T]he Commission [must] combine the technical standards governing private operational fixed microwave facilities and [common carrier] point-to-point microwave facilities in a single subpart. Moreover, to the greatest extent possible, those technical requirements should be consistently and uniformly applied to uses in both pre-existing categories of service. This would streamline the Part 101 rules and promote non-interfering operations. Adoption of this approach would involve moving a number of provisions from proposed Subparts H and I, conforming them, and placing them in a single subpart (Subpart C would appear to be the logical location).[18]

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single new Section 101.147. This consolidation is explicitly supported. DMC at 3; BellSouth at 5. Various parties raise specific questions covering the frequencies for Part 101 licensees. ITA requests that a definitive channel plan for the 21-23 GHz band should be included in the frequency table and WMC requests that the 28 and 38 GHz bands should be allocated for POFS and CC use. ITA at 8; WMC at 3. These suggestions have merit, but until rule makings are completed for such bands, the ITA and WMC proposals are premature. ITA states that the footnotes associated with Section 94.61(b) should be included in Section 101.101. ITA at 6. These footnotes are no longer needed because, to the extent necessary, they are included in special provisions of the TIA/NSMA proposed consolidated list of frequency assignments (e.g., Section 101.147(r)). API requests that Section 101.101 contain a footnote that clearly provides for the use of assignments in the 2450-2500 MHz band for temporary POFS stations. API at 8. API's request is satisfied in the TIA/NSMA proposed Section 101.101(see Joint Comments, Appendix A, A-43 to A-44).

[15]BellSouth at 5.

[16]UTC at 4.

[17]SBC at 3-4.

[18]GTE at 4-5.

Not only did several parties expressly request that the Commission consolidate its technical rules into a single subpart, nearly all the parties support adoption of Part 101 to "streamline" the rules and make them easier to use.[19] Eliminating redundancy in Subparts H and I clearly would achieve these goals.

B. A Single Application Form Must Be Adopted.

Consistent with consolidating all technical rules for CC and POFS users into a single subpart, TIA/NSMA also recommend adoption of a single application form:

> Consolidation of Parts 21 and 94 and adoption of Part 101 is a singular event and must be comprehensive. Unifying application processing without unifying the application form makes no sense. There is no reason to delay creating a single application form. Having such a single form in place when Part 101 becomes effective will facilitate a seamless transition to the new rules by making application preparation and processing easier.
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> TIA and NSMA believe that this application form, at a minimum, must contain the equipment data [i.e., technical parameters] listed in [its revised] Sections 101.21(d) and 101.103(d)(2)(ii). To reflect this single form, TIA and NSMA propose revising Section 101.13, to prescribe the contents of the form, and deleting Section 101.15. TIA and NSMA also suggest that, to develop the format for this single application form and for its electronic counterpart, the Commission participate with industry in an open proceeding to assure that those proposing the form, and those gleaning essential information from it, will have input regarding its contents.[20]

Widespread support for using a single form exists.[21] Comsearch supports the single form:

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[19] See, e.g., CCPR at 1; Comsearch at 2; AAR at 3; RCCMC at 2; Motorola at 2; LOCATE at 1; Liberty at 1.

[20] TIA/NSMA at 12 (footnote omitted).

[21] WMC at 3; Pacific Bell at 4; ANS at 2; Harris at 2; CSI at 2; SBC at 4; GTE at 4.

> We view the consolidation of the Part 21 (Form 494) and Part 94 (Form 402) as a vital component in streamlining the application and licensing process. Since the technical parameters of a microwave system are consistent regardless of service, the consolidation of forms is appropriate. The implementation of the Commission's proposed electronic filing system would be facilitated by the use of one form and subsequently one set of data elements. Comsearch suggests that the Commission's development of a consolidated form and streamlined electronic filing system can be best achieved through cooperation with industry representatives.[22]

Similarly, UTC identifies the myriad benefits from using a single application form:

> To the extent there are application requirements that are unique to either POFS or CC applicants, UTC recommends that the unified application form specifically identify on the form which questions pertain to each service. In its newly-adopted application form (Form 600) for all mobile radio services, many questions appear to govern all applicants and it is only upon careful review of the accompanying instructions that the applicant can determine which questions must be answered or can be ignored. Due to the relatively minor differences between CC and POFS application requirements, it should not be difficult to segregate any unique application requirements within the context of the form itself.[23]

TIA/NSMA propose other revisions to improve the application process. First, Section 101.21 must be revised so it applies to both CC and POFS applicants, as the NPRM version only applies to a CC applicant.[24] Second, Section 101.21 should be changed to specify what information applicants must provide concerning their equipment (including antennas),

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[22]Comsearch at 7. The Commission proposes that electronic filing should be used. NPRM at 11. TIA/NSMA support electronic filing "because applications could be processed more rapidly and because accurate and complete data are needed to ensure proper coordination." Thus, TIA/NSMA recommend adopting a "specific timetable for implementing electronic filing . . . ." TIA/NSMA at 12 n.15. TIA and NSMA are not alone. See RCCMC at 4-5; DMC at 4; LOCATE at 4; API at 11; P&C at 1-8. TIA/NSMA, while fully supporting electronic filing, prefer that it always should be voluntary rather than mandatory.

[23]UTC at 5.

[24]TIA/NSMA at 13.

thereby guaranteeing public input before any changes could be made.[25] At a minimum, TIA/NSMA propose that applications contain the same technical parameters that should be included in a PCN.[26] Finally, TIA/NSMA propose that Section 101.21 should be the only rule governing submission of supplementary coordination filings with applications.[27]

These same concerns are raised in the comments. For example, GTE recommends that

> a single rule spell out in full the technical content of applications filed by both private operational fixed microwave and [common carrier] point-to-point microwave operators. Proposed Section 101.21 currently governs the technical content of common carrier applications. This section should be expanded to incorporate private microwave applications as well.
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> More importantly, this section should detail each item of technical information to be contained in the applications submitted for both common carrier and private microwave authorizations. At present, the proposed section specifies the technical content requirements primarily by relying upon the application form questions and cross-references to Subparts C, F, G, I, and J. This structure makes it very difficult for a potential applicant to easily confirm what technical data is to be included with an application without turning back and forth between various portions of the rules. Spelling out the application requirements (at least with respect to technical content) in a single section will greatly simplify the rules and enhance the understanding of the Commission's requirements by the public. In particular, there is a meaningful opportunity here for the Commission to capture critical operating data and record it in a national data base if the applicable requirements are spelled out in full.[28]

API also "strongly urges" the Commission to revise Section 101.21

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[25]TIA/NSMA at 13-14.

[26]TIA/NSMA at 13-14.

[27]TIA/NSMA at 13-14.

[28]GTE at 3-4 (footnote omitted).

> to require inclusion on applications of all equipment and antenna information necessary to effectuate the level of coordination required to permit efficient use of the spectrum. While such information previously was required of Part 94 applicants, items requesting that transmitter and antenna manufacturer and model have been deleted from the current Form 402. That change has led to the loss of data that could be helpful to frequency coordinators in facilitating greater use of the scarce microwave spectrum resource.[29]

Certain parties, however, propose eliminating various application requirements that, if adopted, seriously would undermine the frequency coordination and licensing processes. These proposals include minimizing what technical data must be included on the application and what notice must be provided that construction has been completed.

While CCPR supports use of a single application form, it also suggests that the technical information should be included on the path data sheet instead of on the form itself.[30] TIA/NSMA disagree with putting the technical (especially equipment and antennas) information on the path data sheet because these data would not be placed on public notice, would not be subject to public comment, and would be vulnerable to being detached or lost.

Similarly, Southern supports a single application form, but recommends using the Form 402 instead of the Form 494.[31] The Form 494 clearly is superior to the Form 402

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[29]API at 9-10. Some parties point out that Section 101.21(c) permits applicants to reference a FCC ID number instead of submitting an antenna pattern, that such ID numbers are not available consistently, and that a list should be published to ensure such numbers can be referenced. Pacific Bell at 5; SBC at 9-10. The industry currently is working to compile a comprehensive list of the FCC ID numbers, but until such a list can be completed, it is premature to require it by rule.

[30]CCPR at 3-5.

[31]Southern at 11-12.

because it requires substantially all the information TIA/NSMA recommend should be submitted in the application while the Form 402 requires significantly less.[32]

Any diminution of the technical data required on the application form must be prevented. Unfortunately, this assault on the application process already has started. On September 2, 1994, the Commission, by Public Notice, implemented a new microwave licensing system.[33] In the Microwave Licensing Public Notice, the Commission states that an applicant filing a Form 494 no longer is required to identify what transmitters and antennas it will use.

In the attached February 20, 1995, letter to the Chief, Wireless Telecommunications Bureau ("Keeney Letter," which is Attachment 2), TIA/NSMA oppose eliminating the requirement that an applicant filing a Form 494 must specify what transmitter and antennas are to be utilized because: (i) it is inconsistent with Section 21.15(g) of the Commission's rules and thus cannot be enforced absent a formal rule change; and (ii) such equipment data are crucial to effective frequency coordination and interference protection. TIA and NSMA request that the Commission withdraw this new policy, at least until the Part 101 rules governing fixed microwave services are adopted. In this letter, TIA/NSMA detail why the new policy is unacceptable:

> Under this policy, critical data used to meet other Commission requirements, such as Section 21.100(d) frequency coordination obligations, Section 21.107 transmitter power limits, and Section 21.110 antenna polarization specifications, no longer must be provided. These are crucial items for proper frequency interference studies, especially with the near-term influx of PCS

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[32]Nevertheless, TIA/NSMA still recommend that a new form be developed. TIA/NSMA at 12.

[33]Public Notice, Private Radio Bureau to Implement New Microwave Licensing System (Mimeo No. 44611, released September 2, 1994) ("Microwave Licensing Public Notice").

> systems and relocation of 2 GHz fixed point-to-point microwave users. Deletion of antenna and transmitter data from the Form 494 adversely affects the ability of fixed point-to-point microwave users to operate without being subjected to harmful interference. If these antenna and transmitter specifications are not required to be provided in the Form 494, spectral efficiency will suffer in this increasingly congested environment.
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> Absent transmitter and receiver data from the Form 494, the prior coordination notice will have to suffice. Unfortunately, a prior coordination notice is not sufficient certification by a microwave system operator that the prior coordinated technical parameters are, in fact, compliant. In addition, this information must be shown on any station license issued by the Commission to ensure future adherence to the licensed parameters. However, the new policy does not ensure that such data would be set forth on the license.

TIA/NSMA cannot emphasize enough how important having the transmitter and receiver data included in the application forms are to spectrally efficient, interference-free operation. Consequently, the Commission must grant the TIA/NSMA request in the Keeney Letter, rescind the policy set forth in the Microwave Licensing Public Notice, and adopt the TIA/NSMA proposed Section 101.21 to ensure that both CC and POFS applicants submit this essential information in their applications.

NYNEX and SBC recommend that licensees either be excused from notifying the Commission that construction is complete or that they be permitted to certify completion of construction by letter instead of by filing a Form 494A.[34] TIA/NSMA strongly disagree with these proposals. Filing the Form 494A brings necessary closure to the application and licensing processes by ensuring that construction completion is announced on public notice,

[34]NYNEX at 2-3; SBC at 9.

that the appropriate technical parameters are data based, and that the license contains the technical parameters that correspond to how the system is built.[35]

Thus, based on the strong sentiment for a single application form, the Commission must adopt the TIA/NSMA proposed changes to Sections 101.13, 101.21 and 101.63. In addition, the Commission should initiate a proceeding towards developing such a unified form.[36]

C. The Differences Between POFS and CC Users Must Be Preserved.

Several parties, while endorsing the Commission's objective of consolidating rules for POFS and CC users, "underscore the absolute necessity of any ultimate Part 101 providing a clear distinction between Private Operational-Fixed Microwave Service and Point-to-Point (common carrier) Microwave Service."[37] TIA/NSMA agree with these parties and designed their recommendations to satisfy this need:

> [T]he uniqueness of the POFS and CC services must not be compromised as the result of these revisions.

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[35]In Section 101.63, TIA/NSMA propose requiring all Part 101 licensees to make such a filing.

[36]Issues regarding license posting requirements and license correction procedures are raised. These issues are related to establishing the appropriate forms because of their importance to maintaining a comprehensive data base for coordination and other purposes. Several parties recommend that license posting at each station be mandated. API at 13; TDS at 3; ALLTEL at 7; UTC at 16. TIA/NSMA agree because such a requirement could help ensure that licenses are issued and contain the correct data. GTE recommends permitting licensees to correct their license information by letter. GTE at 8. TIA/NSMA agree with GTE's desire to make this requirement less burdensome.

[37]API at 5. See also AAR at 5-6; ITA at 3; UTC at 11-16; ANS at 2; CSI at 2; Central at 3-6; Southern at 4-10; Entergy at 4-9; Metropolitan at 5-7.

> Each class of service has special attributes and serves different kinds of needs. Any Part 101 rule must guarantee that POFS users can continue providing customized services and meeting public safety and emergency requirements. Conversely, CC users must be assured that they can continue providing commercial service to the general public without any restrictions on how the service would be offered, where it would be provided, or how much it would cost.[38]

TIA and NSMA recommend that Subparts H and I be retained to govern the non-technical aspects of POFS and CC operations. Specifically, Subparts H and I should include, at a minimum, non-technical rules for eligibility and permissible communications.[39]

OTHER PROPOSALS BY COMMENTERS ARE ADDRESSED IN THE TIA/NSMA COMMENTS OR ARE UNNECESSARY

The comments on the NPRM contain numerous helpful suggestions regarding the Commission's proposals. Many of these suggestions already have been incorporated in the TIA/NSMA Joint Comments, such as the transition period and extended construction period. Certain suggestions were not included in the TIA/NSMA Joint Comments, such as the Comsearch proposed formula to determine maximum EIRP for short minimum paths.[40] Other suggestions, however, are inappropriate and should not be included in the rules.[41]

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[38]TIA/NSMA at 16-17.

[39]TIA/NSMA at 17.

[40]In Reply Comments to be filed in this rulemaking, Comsearch will be submitting its proposed formula. TIA/NSMA have reviewed the Comsearch proposal.

[41]For example, WMC recommends that all frequency designations be rounded to 100 kHz. WMC at 5. This recommendation is inappropriate because it would result in frequency assignments conflicting instead of meshing, as is the case under the current channelization plan.

A. TIA/NSMA's Proposal For ATPC Must Be Adopted.

TIA/NSMA propose using the Bulletin 10-F criteria for employing ATPC.[42] Unfortunately, there has been considerable misunderstanding regarding ATPC.

A limited number of parties question using Bulletin 10-F as the standard for ATPC (i.e., Pacific Bell, RCCMC, TSGI, and UTC). These concerns are without any basis. Moreover, even though Pacific Bell believes that the Bulletin 10-F restrictions for ATPC are unnecessary, it nonetheless agrees with TIA/NSMA in opposing the Commission's decision to permit only a 3 dB increase in power when using ATPC.

In the Joint Comments, TIA/NSMA discuss how ATPC works:

> When ATPC is employed, the station is licensed for the maximum transmitter power it ever will use. Under normal circumstances, the actual transmitter power actually is several dB less. The transmit power is raised to the maximum allowed power only when necessary. This practice is consistent with the Commission's requirement that users employ only the minimum power needed to achieve acceptable service [Sections 21.107(a) and 94.73(a)]. ATPC is a very powerful concept, which significantly enhances frequency reuse in the lower microwave frequency bands. Under TIA's Bulletin 10-F restrictions, the time period when ATPC is used is quite limited.
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> Given the Commission's commitment to improving spectral efficiency, it must permit ATPC to be used by both CC and POFS microwave licensees. Contrary to its approach in ET Docket No. 92-9 "that ATPC is permitted up to a 3 dB increase in power," if ATPC is authorized, the only allowance that the Commission needs to make is for transmitters to be operated at less than their authorized power. Thus, if use of ATPC is permitted, there is no basis for the Commission's concerns regarding the impact of ATPC on its forms, licenses and data base.[43]

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[42]TIA/NSMA at 37-39. Attachment 3 hereto is Bulletin 10-F, Section 4.3, "Automatic Transmit Power Control in Digital Links."

[43]TIA/NSMA at 39 (footnotes omitted).

DMC supports use of Bulletin 10-F. It agrees with the Commission and with TIA/NSMA that Bulletin 10-F guidelines for ATPC should be

> incorporate[d] into [the Commission's] rules . . . . For record purposes, the information concerning ATPC should be included with the path data which become part of the coordinator's records.[44]

Comsearch, in its comments, acknowledges the confusion over ATPC and explains its proper application:

> It is evident from the NPRM as well as from the previous ET Docket 92-9 proceeding that there is considerable confusion at the Commission over Automatic Transmitter Power Control (ATPC). In the NPRM the Commission asks for additional comments on ATPC and states "we . . . are still uncertain of the necessity of including explicit provisions for its use in the rules." We would like to provide some further information on this issue. Apparently the Commission believes that the short term increase in transmitter power of ATPC systems would cause the systems to exceed authorized power or to exceed EIRP limitations. However, the industry is not asking for the right to use ATPC in this manner. Users simply want to be able to operate ATPC transmitters at much lower power than the authorized maximum. ATPC transmitters reach the authorized maximum only for the short periods of time that deep fading occurs.
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> Presently, Rule 21.107(c) requires that "the power of each transmitter shall be maintained as near as practicable to the power input or output specified in the instrument of station authorization." Rule 94.45(a)(10) states that "any change in authorized effective radiated power in excess of 3 dB" requires modification of the station license. Automatic Transmitter Power Control systems which are in use today typically reduce the transmitter power 6 to 15 dB below the authorized power. Such operation could be interpreted to violate the Rules cited above. However, we do not believe that the Commission should restrict licensees from operating below authorized power. Whether such restriction is the Commission's intent is unclear. We support clarifying this point by including language in Part 101 stating that ATPC equipped transmitters may operate at or below their authorized power. A definition of ATPC must also be included if the term is to be used in the Rules.

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[44]DMC at 7.

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> We believe that most users support the TSB 10-F guideline that ATPC systems should be licensed at the maximum transmitter power. Further, we do not believe that ATPC should be used to help meet the EIRP restrictions on short links (Rules 21.710(b) and 94.79(b), proposed Rule 101.143(b)). The reliability of an ATPC link is determined by the fade margin available using the maximum power of the transmitter. A restriction that limits the EIRP on a link to a value deemed adequate for reliable communication is equally applicable to a fixed power system or to an ATPC system at maximum power. Thus we believe that the 3 dB ATPC allowance in the EIRP restriction for short links should be removed from Rule 101.143.

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> The guidelines of TSB Bulletin 10-F are to be used to determine when an ATPC system may be coordinated at a power less than maximum and how much less than maximum. For fixed power systems, the power used for frequency coordination normally equals the power indicated on the license. For ATPC systems, however, the power used to analyze the potential interference into other systems may be less than the maximum power indicated on the license. While the Commission needs to be aware of this change, no changes to application forms, licenses, or databases are necessary at this time. The industry is fully capable of managing ATPC pursuant to the TSB 10-F guidelines.[45]

Some parties still raise concerns over ATPC. While it supports making ATPC available for CC and POFS licensees, Pacific Bell questions the use of Bulletin 10-F as the standard.[46] RCCMC acknowledges that "ATPC could prove beneficial to microwave licenses," but cautions that "certain safeguards must be in place to prevent against misuse and inefficient use of the spectrum."[47] UTC and TSGI also are concerned that the

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[45]Comsearch at 3-6 (footnotes omitted and emphasis added).

[46]Pacific Bell at 2-3.

[47]RCCMC at 8.